

MYCOTAXON

<http://dx.doi.org/10.5248/130.821>

Volume 130, pp. 821–825

July–September 2015

***Blastophragma chongqingense* sp. nov. and a new record of *Bahusutrabeeja angularis* from southern China**

JIAN-MEI GAO, JI-WEN XIA, YING-RUI MA, ZHUANG LI*, & XIU-GUO ZHANG

*Department of Plant Pathology, Shandong Agricultural University, Taian, 271018, China**CORRESPONDENCE TO: sdau613@163.com, liz552@126.com

ABSTRACT — A new species, *Blastophragma chongqingense* is described and illustrated from specimens collected on dead branches in Chongqing Province. It differs in conidial morphology from the two known species of *Blastophragma*. In addition, *Bahusutrabeeja angularis* is newly recorded from China.

KEY WORDS — hyphomycetes, taxonomy

Introduction

The genus *Blastophragma*, containing two species, was described by Subramanian (1993), but was invalid because there was no indication of where the type was conserved. Subsequently, Subramanian (1995) validated the genus, which is characterized by single conidiophores with an integrated, apical, polyblastic conidiogenous cell that shows sympodial extension and produces solitary, acrogenous, distoseptate blastoconidia. The type species, *B. subulatum* Subram., was found on dead twigs of an unidentified plant from Malaysia, while the second species, *B. rostratum* Subram., was found on dead twigs of *Antidesma cuspidatum* Müll. Arg. (*Phyllanthaceae*).

Bahusutrabeeja dwaya Subram. & Bhat (Subramanian & Bhat 1977), the type species of *Bahusutrabeeja* Subram. & Bhat, has distinct individual conidiophores with integrated, terminal, cylindrical conidiogenous cells that produce conidia in succession by percurrent extension from a single fertile locus. The conidia are hyaline, smooth, thick-walled, aseptate, spherical, rounded-cubical or obpyriform to obclavate, with several to many slender appendages distributed over the surface; they accumulate in a slimy mass at the apex of the conidiogenous cell. Six species have been accepted in *Bahusutrabeeja* (Bhat 1994, Bhat & Kendrick 1993, Li et al. 2014, McKenzie 1997, Rao & Hoog 1986, Subramanian & Bhat 1977).

A species with the morphological characteristics of *Blastophragma* was collected on decaying twigs and dead stems in the tropical forests of Chongqing Province; it is proposed here as a new species. In addition, *Bahusutrabeija angularis* was collected and is a new record for China.

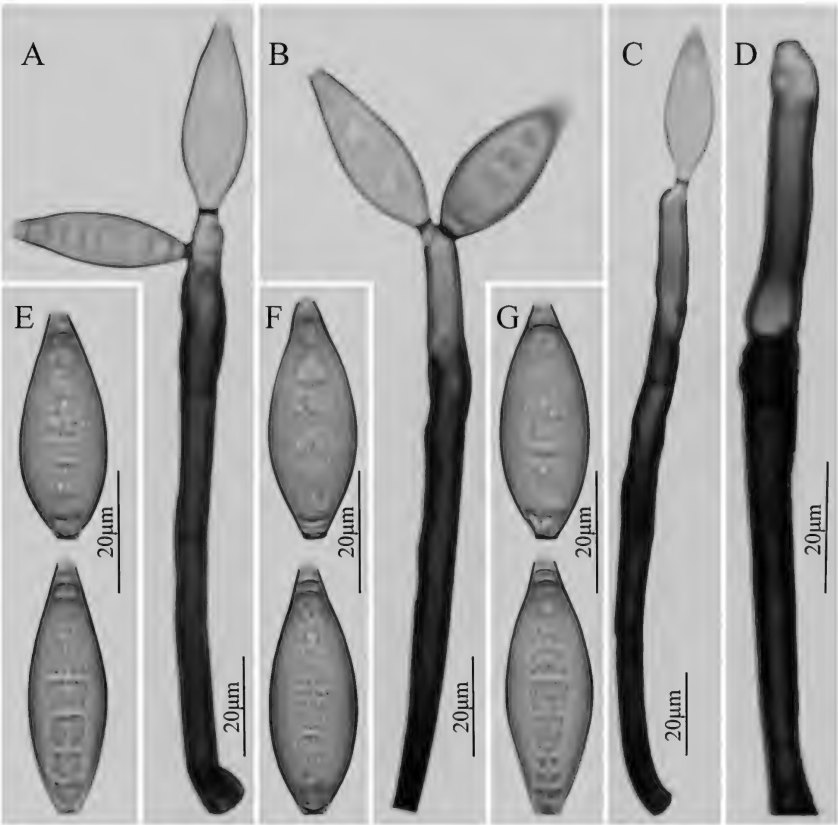


FIG. 1. *Blastophragma chongqingense* (holotype, HSAUP H9611). A–C. Conidiophores, conidiogenous cells, and conidia. D. Conidiophore and conidiogenous cell. E–G. Conidia.

Blastophragma chongqingense J.M. Gao & X.G. Zhang, sp. nov.

FIG. 1

MYCOBANK MB 814400

Differs from *Blastophragma subulatum* by its larger fusiform conidia and from *B. rostratum* by its fusiform 5–11-distoseptate conidia.

TYPE: China. Chongqing Province: Mount Xiannv, on dead stems of unidentified broad-leaved tree, 20 Oct. 2014, J.M. Gao (holotype, HSAUP H9611; isotype, HMAS 243458).

ETYMOLOGY: referring to the province where the type was found.

Colonies on natural substrate effuse, pale brown to brown, hairy. Mycelium partly superficial, partly immersed in the substratum, composed of septate, pale brown, smooth, 2–4 µm wide hyphae. Conidiophores distinct, single, caespitose, unbranched, erect, straight or slightly flexuous, dark brown, slightly paler in the distal part, geniculate, cylindrical, smooth, thick-walled, 0–6-septate, 50–175 × 4.8–9.6 µm. Conidiogenous cells polyblastic, integrated, terminal, with sympodial extension, subhyaline to pale brown. Conidia acrogenous, blastic, solitary, dry, subhyaline to pale brown, fusiform with a flat, dark basal scar, widening then narrowing above, smooth, rounded at the apex, 5–11-distoseptate, 36–44 × 12–16 µm; conidial wall brown; basal scar 3 µm wide.

COMMENTS –*Blastophragma chongqingense* differs from the two previously described species of *Blastophragma* in conidial shape, size, and number of septa. *Blastophragma subulatum* differs by its smaller subulate conidia (15–25 × 4.5–6.0 µm; Subramanian 1993), and *B. rostratum* differs by its subobclavate to subfusiform conidia with fewer septa (40–50 × 7–10 µm, 4-septate; Subramanian 1993).

Bahusutrabeeja angularis V. Rao & de Hoog, Stud. Mycol. 28: 67 (1986) FIG. 2

Colonies on natural substrate effuse, farinose, dark brown. Mycelium scanty, immersed, composed of septate, pale brown, smooth-walled hyphae. Conidiophores distinct, single, erect, straight or slightly flexuous, unbranched, arising from minute, semi-immersed sclerotial bodies, cylindrical, smooth, thick-walled, 145–290 × 4.8–7.2 µm, dark reddish brown near the base, light brown in the apical part. Conidiogenous cells polyphialidic, often extending percurrently after breakage, terminating with a phialide. Phialides integrated, cylindrical with conical apex, 4.8–6.5 µm wide at the base, 2 µm wide just below the terminal collarette; collarettes terminal, sometimes also lateral, pale brown, funnel-shaped, 2 µm long, 4 µm wide at the tip. Occasionally the collarette extends and develops a new phialide opening. Conidia hyaline, aseptate, smooth, thick-walled, rounded-cubical to polygonal, 7.8–10.2 µm diam., one of the angles being the basal scar, each corner provided with a thin, hyaline appendage; conidia aggregating in slimy masses at the apex of the conidiophore.

SPECIMEN EXAMINED: CHINA. HAINAN PROVINCE, tropical forest of Jianfengling, on dead stems of unidentified broad-leaved tree, 18 Apr. 2014, J.M. Gao (HSAUP H9599; HMAS 243459).

COMMENTS –*Bahusutrabeeja angularis*, which was described from India, is reported for the first time from China. The Chinese specimen closely matched the protologue description (Rao & Hoog 1986), except that the Indian type specimen had longer conidiophores (200–500 × 5–7 µm) and slightly smaller conidia (7–8 µm diam.).

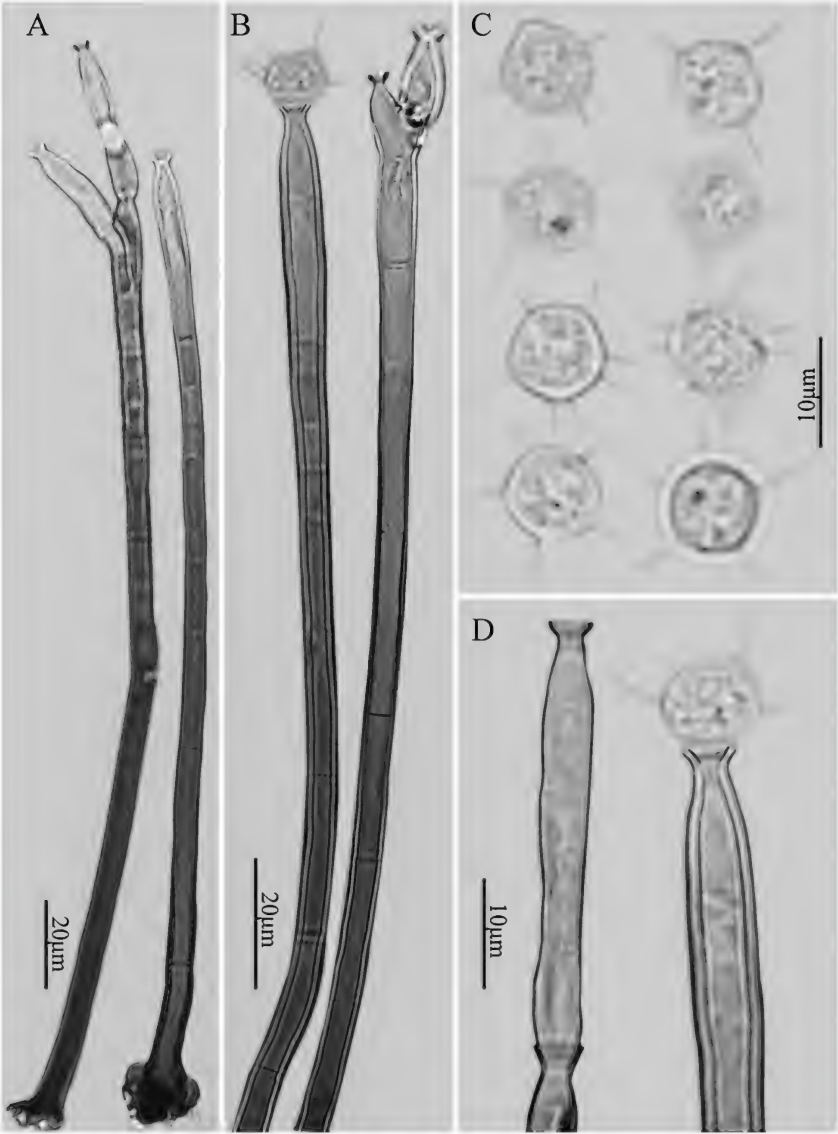


FIG. 2. *Bahusutrabeeja angularis* (HSAUP H9599). A. Conidiophores and conidiogenous cells. B, D. Conidiophores, conidiogenous cells, and conidia. C. Conidia.

Acknowledgments

The authors express gratitude to Dr. Bryce Kendrick and Dr. Eric H.C. McKenzie for serving as pre-submission reviewers and for their valuable comments and suggestions. This project was supported by the National Natural Science Foundation of China (Nos. 31093440, 31230001) and the Ministry of Science and Technology of the People's Republic of China (Nos. 2006FY120100).

Literature cited

- Bhat DJ. 1994. Two undescribed species of conidial fungi from forests of western Ghats in southern India. *Indian Journal of Forestry* 17: 129–133.
- Bhat DJ, Kendrick WB. 1993. Twenty-five new conidial fungi from the Western Ghats and the Andaman Islands (India). *Mycotaxon* 49: 19–90.
- Li XX, Xia JW, Ma LG, Castañeda Ruíz RF, Zhang XG. 2014. A new species of *Bahusutrabeeja* from Guangxi, China. *Mycotaxon* 126: 227–230. <http://dx.doi.org/10.5248/126.227>
- McKenzie EHC. 1997. *Bahusutrabeeja bunyensis* sp. nov. (Hyphomycetes) from Queensland, Australia, and a new name for *Chalara australis* McKenzie. *Mycotaxon* 61: 303–306.
- Rao V, Hoog GS de. 1986. New or critical hyphomycetes from India. *Studies in Mycology* 28. 84 p.
- Subramanian CV. 1993. *Blastophragma* gen. nov. for two interesting hyphomycetes from southeast Asia. *Cryptogamie, Mycologie* 14: 39–44.
- Subramanian CV. 1995 [“1992–1993”]. Validation of names of some taxa (hyphomycetes). *Kavaka* 20/21: 57–58.
- Subramanian CV, Bhat DJ. 1977. *Bahusutrabeeja*, a new genus of the hyphomycetes. *Canadian Journal of Botany* 55: 2202–2206. <http://dx.doi.org/10.1139/b77-249>